

SCHOOL OF FOREST RESOURCES • AGRICULTURAL AND FORESTRY EXPERIMENT STATION
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Mr. Dennis Holland, Area Manager
U.S. Fish and Wildlife Service
200 East Pascagoula Street
Suite 490
Jackson, Mississippi 39205



Dear Dennis:

This is to report the completion of your requested study on deer condition at the Yazoo National Wildlife Refuge. On March 22, 1979, in cooperation with your office and the Mississippi Game and Fish Commission, we attempted to collect 10 deer from both the Panther Swamp and Yazoo Refuge. No deer were collected from Panther Swamp, principally due to limited access into that area. I suggest that we postpone collection of deer from that area until a more coordinated effort can be launched in the Spring of 1980. Prebaiting deer with soybeans should help insure success of future collections at Panther Swamp.

On the Yazoo Refuge we collected 7 deer on March 22 and 3 additional deer on May 1, 1979. A complete necropsy was performed on all deer, including examination for lungworms, esophageal worms, liver flukes, brain worms, nasal botfly larvae, and other parasites. Reproductive examinations, APC counts and hematology also were conducted. The data which were collected on each deer are provided in Table 1 and hematology data are given in Table 2.

In general, the Yazoo deer were in excellent condition. A complete external parasite examination was not conducted, but no ticks were observed on the ears or anal regions of deer examined. This is an extremely rare occurrence for deer at the time of the year these were collected. Also we found no liver flukes, esophageal worms and only one deer had abdominal worms (Setaria spp.) present. These parasites are extremely common in other Delta herds.

Body weights were very good, with all does over 1-1/2 years of age exceeding a dressed weight of 100 lbs. Fawn dressed weights averaged 72 lbs and 60 lbs, respectively for males and females. This also is high, since we have some herds in Mississippi where 1-1/2 year-old deer have lighter body weights than the fawns we collected at Yazoo. Additionally, all 4 mature does were carrying twin fetuses, indicating high reproduction. Conception dates for these fetuses were determined as December 23, January 1, January 11, and January 16. Abomasal parasite counts were low, with a mean of 113 per deer.

Hematology appeared normal for most blood measures (Table 2). However, eosinophil counts were somewhat elevated and may suggest a parasite problem which was not detected during the necropsy. Eosinophils are white blood cells that are known to increase during some parasite infections and during stress related conditions. Since the animals otherwise were in such good condition, there is little cause for concern with the observed esinophil count.

(I also viewed records of past deer harvest for the Yazoo Refuge. I was extremely happy to see that complete harvest records had been maintained, including body weight and antler development for each deer killed. Harvest trends for the area suggest the herd is rapidly increasing. The only major fault I noted was the lack of age information. It will be critical to obtain age data during future deer check station operations. At the minimum, it is necessary to separate the data into three classes: fawns, 1-1/2 year-old, and 2-1/2 year-old and older deer. Only if this is done can reliable information on change in herd condition be monitored from harvest statistics. These age classes are readily identified on the basis of three cuspid third premolar on 1-1/2 year and younger deer and on the lack of eruption of the last molars in the fawn age class. Therefore, little training is necessary to establish reliability for check station operators.)

(I also noted that the refuge personnel have maintained actual map location for every deer killed. These data are exceptionally valuable and represent a unique effort on the part of the refuge personnel. I would highly recommend that these data be published. A paper on this subject would be of great interest to wildlife managers. We have all heard tales about the hunter who goes to the same spot year after year and bags a "big buck". The data maintained at Yazoo would help provide insight on this subject. I would also suggest that duplicate files on harvest statistics be maintained in the area office for each refuge. I suspect you may already be doing this, however, because of the value of data of this type I felt it worth a comment.)

In summary, my assessment of the Yazoo herd is that it is currently in excellent condition. However, harvest trends suggest a rapidly expanding herd that needs close monitoring. If it continues to expand at its present rate, then either sex harvests may be necessary and will probably be highly desirable in two or three years time.

Yours truly,

Harry A. Jacobson
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Assistant Professor
Dept. of Wildlife & Fisheries

HAJ/nhs

Table 1. Deer statistics, Yazoo National Wildlife Refuge, March 22, 1979 to May 1, 1979.

Sex	Age	Dressed Weight (lbs.)	Pregnant (Yes or No)	Number Fetuses	Conception Date
Female	3 1/2	120	Yes	2	Dec. 25, 1978
Female	2-1/2	105	Yes	2	Jan. 11, 1979
Female	1-1/2	100	Yes	2	Jan. 1, 1979
Female	8 mos.	65	No		
Male	8 mos.	60			
Male	8 mos.	75			
Female	8 mos.	55	No		
Female	6-1/2	102	Yes	2	Jan. 16, 1979
Male	10 mos.	78			
Male	10 mos.	76			

Table 2. Blood measures, white-tailed deer, Yazoo National Refuge
March 22 - May 1, 1979.

Measure	Number in Sample	Average	Range	Interpretation
Red Blood Cell Count	5	7.93×10^6	6.22×10^6 - 10.40×10^6	Normal
Hemoglobin (g/100ml)	5	18.1	15.0-25.0	Normal
Hematocrit (%)	5	54.3	45.0-75.0	Normal
White Blood Cell Count	5	4,210	1,259-8,000	Normal
Mean Corpuscular Volume	5	68.8	45-84	Slightly elevated
Mean Corpuscular Hemoglobin	5	23	19-28	Normal
Mean Corpuscular Hemoglobin Concentration	5	33	33-33	Normal
Total Protein	4	5.75	4.9-6.7	Normal
Differential Cell Count				
Neutrophil (%)	5	33.6	10-48	Normal
Eosinophil (%)	5	12.2	3-20	Elevated
Basophil (%)	5	< 1	0-2	Normal
Lymphocyte (%)	5	49.4	28-70	Normal